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WILHELM WUNDT

By E. B. TITCHENER

Wilhelm Max Wundt was born, the son of a Lutheran pastor, at Neckarau in Baden, on August 16th, 1832. We know nothing of the family life of his parents, and nothing of his schooldays, though we may guess that he attended the Gymnasium at the neighboring town of Mannheim, of which in later years (1907) he became an honorary citizen.¹ The biographies begin with the statement that he spent the years 1851 to 1856 at the universities of Tübingen (where his uncle was professor of anatomy), Heidelberg and Berlin. His interest, at any rate for the greater part of his studentship, lay not in physiology (though he worked for a while in Johannes Müller's Institute) but in the purely medical subject of pathological anatomy. In 1855-6 he was assistant in the Medical Clinic at Heidelberg, and his *Inaugural-Abhandlung* (Untersuchungen über das Verhalten der Nerven in entzündeten und degenerirten Zuständen) is dedicated to C. E.

¹ It is difficult to secure these details. I am not even sure of Wundt's middle name: the authorities here accessible give it as Max, but I seem to remember having seen it printed Maximilian. Nor do I know if Wundt had brothers and sisters.

Neckarau is a small place lying close to Mannheim, with which I believe it is now incorporated. Mannheim and Heidelberg are themselves only half-an-hour apart by rail.

Hasse, its director.² The biographies inform us, next, that he became Privatdozent at Heidelberg in 1857. His titular subject, whether as a matter of choice or of academic accident, was physiology.³ He remained in this position, working for some years as assistant to Helmholtz, who came to Heidelberg in 1858,⁴ until 1864, when he was appointed *extraordinarius*. Again there was a wait; Wundt's apprenticeship to the academic career was longer even than Kant's. In 1874, however, he received a call to Zurich, to the chair of inductive philosophy founded by F. A. Lange; and in the following year he was made a professor of philosophy at Leipzig.⁵ Here he lived and worked for forty-five years,—rector of the university in 1889 (only fourteen years after he had joined the philosophical faculty), honorary citizen of the town in 1902, orator of the university at its five-hundred-year jubilee in 1909,⁶ professor until 1917; and near by, at Grossbothen, he

² Wundt held the doctorates of medicine, philosophy and law. The doctorate of law was conferred upon him, *honoris causa*, by the University of Göttingen, in 1905. This year was the fiftieth anniversary of his doctorate of medicine, which was accordingly taken in 1855. The Heidelberg thesis bears the date 1856. (My copy has no *Vita*; but as the plate at the end is duplicated the *Vita*-leaf may have been omitted.) Did it serve both for *Dissertation* and for *Habilitations-schrift*?—I do not know where or when the doctorate in philosophy was taken; I have been told that it was an honorary degree.

³ See title-page of *Die Lehre von der Muskelbewegung*, 1858 (Preface, 1857): a book dedicated to E. du Bois-Reymond, from whom and from whose pupils Wundt was presently to suffer sadly.

⁴ The relations of Wundt and Helmholtz have not, to my knowledge, been thoroughly worked out. Personally, tradition says, the two men were uncongenial; and that would not be surprising, since their training was similar and their gifts and temperaments most dissimilar. But they speak of each other with mutual respect in the *Physiologische Optik* (1856, 1860, 1866) and the *Theorie der Sinneswahrnehmung* (1858-1862). When Helmholtz went to Berlin in 1871 his chair fell not to Wundt but to W. Kühne.

⁵ His chief opponent was A. Horwicz. G. S. Hall tells us (*Founders of Modern Psychology*, MCMXII., 311) that the scale was turned in Wundt's favor by the local Herbartians. It must, surely, have been for them a choice of evils! For, if they had every reason to dislike Horwicz, they could still hardly have been much impressed by the preface to the *Physiologische Psychologie*.

⁶ I have no list of Wundt's public honors. In 1911 he received the order *Pour le mérite*, one of the most highly prized of European distinctions (30 German and 30 foreign members); and he was knight of various, I suppose Saxon, orders. He also became a *wirklicher Geheimrat* of Saxony, and was addressed as *Exzellenz*.—It may be mentioned in passing that Wundt once attempted politics. In 1866 he was chosen representative of Heidelberg in the Baden second chamber. He very soon resigned.

died, on August 31st, 1920, a fortnight after his eighty-eighth birthday.⁷

Outwardly, then, Wundt's life was as uneventful as could well be: seventeen years at Heidelberg, and forty-five at Leipzig, with the Swiss interlude of a single year between. We have now to see what he made of this scholar's life; and we turn, naturally, to his books.

The book of primary importance for our purpose is the *Beiträge zur Theorie der Sinneswahrnehmung* of 1862. We do not know what led Wundt to the problem of perception: perhaps the Kantian atmosphere that he had breathed in Müller's laboratory,⁸ perhaps the cases of anaesthesia that he met with in the Medical Clinic at Heidelberg, perhaps the discovery of a kindred spirit in E. H. Weber. At all events he writes a full-blown theory of perception, tactual and visual, four years before Helmholtz issues the third part of the *Optik*. We need not, however, concern ourselves with the psychology either of this book or of the more comprehensive *Vorlesungen über die Menschen- und Thierseele* which appeared in the year following. It was the psychology of the student of clinical medicine, of the biological technologist, made up out of general knowledge and common sense and medical case-histories as occasion required; we have plenty of it with us today, without needing to explore the work of half-a-century ago. What is of solid and enduring interest is the thirty-page introduction, *Ueber die Methoden in der Psychologie*, in which Wundt sets forth three ideas of first-rate importance: the idea of an experimental psychology, the idea of a social psychology, and the idea of a scientific metaphysics.

(1) If psychology is to advance, Wundt says, it must follow the inductive path. Two inductive methods are available: the method of statistics and the method of experiment. The former is an indirect method, since it bears primarily upon practical and not upon theoretical psychology. It brings with it, nevertheless, an extension of psychological observation; it furnishes psychology with new facts, guaranteed by the law

⁷ Wundt's war-utterances we can only try to forget. We may be glad that he suffered no personal loss and (as it appears) no considerable personal discomfort during the troubled years; that he was able to work steadily to the completion of the *Völkerpsychologie*; and that he saw his son established as the successor of R. Eucken in Jena (W. Wirth, *Arch. f. d. ges. Psych.*, XL., 1920, xvi.).

⁸ Kant and Herbart were the influences against which Wundt had to fight most continuously. They were accordingly the influences which most strongly affected him.

of large numbers; and in so far it is related to the direct method of experiment. This second method, Wundt declares, is in principle applicable over the whole range of general psychology. There is no hint of the restriction with which we later become familiar.⁹ But neither is there, so far as I can see, any hint that the use of experiment is to safeguard the procedure and assure the results of that *Selbstbeobachtung* with which all psychology begins. Observation seems to remain pretty much what it had always been; only, by varying the conditions of observation, Wundt hopes to vary the mind's response to external stimuli and thus presently to arrive at laws of the mental life as such.¹⁰ Not, I think, until 1881 did he express the modern view that "die exacte Beschreibung der Thatsachen des Bewusstseins . . . das einzige Ziel der experimentellen Psychologie [ist]."¹¹

Whence, now, did Wundt derive his idea of an experimental psychology? I have no wish to belittle his originality; if I had, the attempt to do so would be futile. Ideas of this sort, however, do not spring readymade from the thought of an individual. And I believe that the proximate source of Wundt's idea is patent. No one can read the introduction to the *Beiträge* without being reminded of the sixth book of John Mill's *Logic*; and no one, I think, who after such reminder compares the two compositions can doubt that Mill, for whom psychology is explicitly a science of observation and experiment,¹² gave the cue both for Wundt's emphasis on improvement in method and for the concrete means to improvement, statistics and experiment, which Wundt pro-

⁹ "Man ist häufig der Ansicht gewesen, gerade im Gebiet der Empfindung und Wahrnehmung [Ebbinghaus was nearly a quarter of a century in the future!] sei die Anwendung der experimentellen Methode noch möglich, . . . dagegen sei es ein vergeblicher Versuch, auch in das Bereich der höheren Seelenthätigkeiten auf experimentellem Wege vordringen zu wollen. Sicherlich ist dies ein Vorurtheil" (*Beiträge*, xxvii.).

¹⁰ *Ibid.*, xxix.

¹¹ Ueber psychologische Methoden, *Philos. Stud.*, i., (1881) 1883, 3. The statement is sharpened in 1888. "Selbstbeobachtung [in the technical sense of *Beobachtung*] ist ausführbar, sie ist es aber nur unter der Bedingung der experimentellen Beobachtung" (Selbstbeobachtung und innere Wahrnehmung, *Philos. Stud.*, iv., 301). Cf. the appraisal of reaction-experiments in 1894: "Der Hauptwerth . . . dieser Versuche besteht . . . darin, dass sie die psychischen Vorgänge exact geregelten Bedingungen unterwerfen und auf solche Weise eine genaue Analyse der in der Selbstbeobachtung gegebenen Erscheinungen möglich machen" (Zur Beurtheilung der zusammengesetzten Reactionen, *Philos. Stud.*, x., 498).

¹² J. S. Mill, *A System of Logic*, etc., bk. vi., ch. iv., § 2; ch. v., § 5 (ii., 1856, 426, 447).

pounds. There is marked difference, over and above the cardinal difference that Mill talked about experiments and Wundt carried them out; but I have no doubt of Wundt's indebtedness to Mill.¹³

(2) The idea of a social psychology was in the German air at the time of Wundt's writing. In 1859-60 M. Lazarus and H. Steinthal had published the first volume of their *Zeitschrift für Völkerpsychologie und Sprachwissenschaft*, and their elaborate programme gave Wundt something positive to react against. We must follow the course of this reaction through several books.

In the *Beiträge* social psychology appears as an auxiliary science. General psychology must not only be improved methodically from within but must also be supported from without; and the supporting disciplines are two: first, developmental psychology, the psychology of the child; and secondly comparative psychology, the psychology of the lower animals and of human societies.¹⁴ The preface to the first volume of the *Vorlesungen* of 1863 contains the sentence: "Wo das absichtliche Experiment aufhört, da hat die Geschichte für den Psychologen experimentirt."¹⁵ This seems to look more directly toward the future: only, when we read the preface to the second volume, we find that the chapters in which experiment cannot be applied are those concerned with feeling, desire and action! Ethnological enquiry replaces experiment for the construction of a general theory of feeling; anthropology and the natural history of the lower animals give us an insight into instinctive actions, which leads on to a theory of the will; and the development of language serves to confirm psychological conclusions regarding the development both of feeling and of cognition.¹⁶ We are wholly within the confines of general or individual psychology. Indeed, in a later note Wundt declares expressly that he has not, in the *Vorlesungen*, entered on the field of *Völkerpsychologie* as understood by Herbart, by Lazarus and Steinthal, and by Waitz.¹⁷ In this book, then, we find—what is not infrequent in Wundt's

¹³ Mill's *Logic* appeared in 1843, and the first German translation in 1849. See, e. g., *Beiträge*, 441. In the *Psychologismus und Logizismus* of 1910 (*Kleine Schriften*, i., 523) Wundt dates the first German edition 1862. Is this an evidential *lapsus*,—or did Wundt simply take the date from the second edition that he had used (1881) for his article on Mathematical Induction?

¹⁴ *Beiträge*, xiv. f. The three departments of *Völkerpsychologie* are Sprachkunde, Culturgeschichte and Sittengeschichte.

¹⁵ *Vorlesungen*, i., 1863, ix.

¹⁶ *Ibid.*, ii., 1863, iii. f.

¹⁷ *Ibid.*, 452.

work—a positive statement side by side with a flatly negative reaction to its immediate excitant.

The first three editions of the *Physiologische Psychologie* do not take us much further. In 1874 social psychology is essentially a descriptive, as opposed to an explanatory science. It has to do with complex phenomena, which must be illuminated by the laws of the individual consciousness; its task is largely classificatory.¹⁸ In 1887 psychology is divided into (1) subjective psychology, which relies wholly on inner perception, and (2) objective psychology, which attempts to perfect and to supplement inner perception by objective means. Objective psychology, again, divides into (a) experimental or physiological psychology, which brings inner perception under the control of experimental appliances, and (b) social psychology, which seeks to derive general laws of psychological development from the objective products of the collective mind, from language, myth and custom. Formally, therefore, experimental and social psychology are co-ordinate and complementary. Materially, they are also mutually dependent; for the collective mental life everywhere points back to the mental capacities of the individuals that make up the society, and the individual consciousness, especially in its more highly developed modes, is supported (*getragen*) by the mental life of the community.¹⁹

In all this there is nothing distinctively Wundtian. And even the essay of 1888 confines itself to a justification of the choice of language, myth and custom as the subject-matter of social psychology, and to the drawing of a cautiously qualified parallel between these three topics and the idea, feeling and will of the individual consciousness.²⁰ Not until 1893 are experimental psychology and social psychology "the two main branches of scientific psychology." Now, at last, we reach the peculiarly Wundtian position that experiment breaks down on the far side of perception and memory, and that thenceforth the psychological system must be built up by way of *Völkerpsychologie*.²¹ It is clear that, in the matter of experimental psychology, Wundt knew from the first what he

¹⁸ *PP*, 1874, 4 f. So i., 1880, 4, except that the determination of the task is omitted.

¹⁹ *PP*, i., 1887, 5 f.

²⁰ Ueber Ziele und Wege der Völkerpsychologie, *Philos. Stud.*, iv., 1888, 20, 25 f.

²¹ "Glücklicherweise fügt es sich jedoch, dass gerade da, wo die experimentelle Methode versagt, andere Hilfsmittel von objectivem Werthe der Psychologie ihre Dienste zur Verfügung stellen:" *PP*, i., 1893, 5.

was about, and modified his attitude only as his own psychological growth proceeded; whereas, in the matter of social psychology, he swung between different opinions, and reached his final standpoint only after a long course of trial and error. The difficulties in the one instance were mainly external; in the other, internal. Realising this, we shall give him all the more credit for keeping the troublesome subject of social psychology continually in mind.

(3) The third idea of the introduction to the *Beiträge* is the idea of a scientific metaphysics, a philosophy which makes the results of all the other sciences the object of its own special investigations.²² To prepare himself for constructive work in the light of this idea, Wundt wrote, after the *Psychologie* of 1874, his *Logik* (1880) and his *Ethik* (1886). The *Logik* falls into two parts: *Erkenntnislehre* and *Methodenlehre*. The former, strictly logical part is at any rate competently done; the book takes its place with the best logical treatises of its generation. Its value pales, however, before the lustre of the *Methodenlehre*, a work that is absolutely without peer. Wundt's occupation with physiology had brought him familiarity with mathematics and the procedures of the exact sciences; his study of psychology had made him equally familiar with the methods of the mental sciences.²³ The result of this "encyclopaedic and round of knowledge" is a book that would of itself alone set its author in the front rank of contemporary thinkers. The *Ethik* deals, in four parts, with the facts of the moral life, the development of theories of the universe, the principles of morality, and the departments of the moral life. The characteristic feature of the work is, again, its scientific tendency, its attempt to derive the principles of morality from an empirical survey of the facts of moral living.²⁴

After this manifold preparation Wundt went about the writing of his *System der Philosophie* (1889). The question had been, of course, whether the thing could be done; whether a full compass of scientific knowledge had not ceased to be possible, if not with Aristotle, at any rate with da Vinci;

²² *Beiträge*, xiii.

²³ It has been said that the biological chapter falls below the standard of the others. I cannot agree. We have to remember the status of biology at the time when the chapter was written, and we have also (whether we like it or not) to presuppose Wundt's view of teleology.

²⁴ I confess that I have never felt at home with the Law of the Heterogony of Ends. It seems likely, if one pushes it far enough, to run sheerly counter to any ethical equivalent of the law of sufficient reason.

whether a modern, even if he had written a Physiology, a Medical Physics, a Psychology, a Logic and an Ethics, could rise on their basis to a genuine philosophy. Wundt replied by doing the thing in question. He draws up a complete programme of scientific philosophy, in every line of which he keeps his touch with science;²⁵ and he propounds a system in which no problem of that programme is shirked. We may accept or reject: Wundt has proved that this way of philosophising is still feasible.²⁶

With the publication of the *System* it might well appear that Wundt had fulfilled his circle. He was fifty-seven years old; and he had enough to do, it would seem, in the revision of former texts (for all the larger books, the *Vorlesungen*, the *Physiologische Psychologie*, the *Logik*, the *Ethik*, the *System* itself, were going into new editions) and in the preparation, collection and revision of minor works (*Grundriss der Psychologie*, 1896; *Einleitung in die Philosophie*, 1901; *Essays*, [1885] 1906; *Kleine Schriften*, 1910-11; *Einführung in die Psychologie*, 1911).²⁷ As a matter of fact, he began forthwith to plan the largest of all his books, a book which causes us to retrace the path which we have too hastily been following: the ten-volume *Völkerpsychologie*, whose dates run from 1900 to 1920. The title-pages of the completed work still carry the familiar legend *Sprache, Mythos und Sitte*; but the plan grew with execution and revision,—Wundt's readers again demanded new editions; and the contents of the successive volumes are now distinguished as Language (2), Art, Myth and Religion (3), Society (2), Law, and Civilisation and History.

It is needless to lay stress on the intellectual vigor of a man who begins the publication of a work of this magnitude when he is sixty-eight, and continues its production over a period of twenty years. It is needless also to inform the JOURNAL's readers that Wundt's reputation has not suffered, has rather

²⁵ "Eintheilung der wissenschaftlichen Philosophie," *System*, 1889, 33 ff.

²⁶ The one large logical flaw of the *System* is the acceptance of the *Idee des letzten Weltgrundes*. Wundt honestly shows us his hand: "abweichend von allen anderen Vernunftideen ist dieselbe nämlich nicht durch einen directen Regressus von der Erfahrung aus erhalten worden, sondern nur infolge der allgemeinen Forderung, dass zu dem im Fortschritt der geistigen Entwicklungen sich vorbereitenden idealen Enderfolg ein dem letzteren vollständig adäquater Grund hinzugedacht werde" (439). He was himself subject to influences, historical and personal, which we who read him may not feel.

²⁷ A bibliography of Wundt's scientific writings will be found in this JOURNAL, vols. xix. (1908) ff.

(if possible) been enhanced, by his last achievement. I wish, however, to linger a little over the *Völkerpsychologie* in order to protest against a belief, current in recent years and in some measure encouraged by Wundt himself,²⁸ which I take to be grounded at best in a half-truth. A legend has grown up—I cannot call it anything else—to the effect that social psychology was Wundt's first and fondest love, and that all his life, up to about 1890, was spent in clearing intruders out of the way, that he might ultimately return to it. In part, the long stretch of years devoted to the *Völkerpsychologie* may be responsible; in part, as I have just said, certain statements of Wundt's own, made in what appears to be unnecessary self-defence;²⁹ in part, perhaps, a misunderstanding of the part played by social psychology in the early *Vorlesungen*, which are naturally more talked about than read. I should not accept this legend if it came with Wundt's own subscription; I should mistrust an old man's memory. I do not think that anyone can accept it who knows intimately the course of Wundt's development as his books portray it. At the beginning and for many years social psychology was rather for Wundt, as I called it above, a troublesome subject.

The kernel of truth in the legend is that Wundt was always attracted by troublesome subjects of a certain sort, subjects offering a certain type of data and inviting a certain kind of method. All of the major books bear a like stamp; they round up an incomplete and scattered subject-matter into tentative union and completeness; they are anticipations of system. They all, therefore, have about them a temporary and provisional air; they seem to promise new editions, to warn the reader that they will presently change. The preface to the first edition of the *Physiologische Psychologie* strikes the key-note: "die Orientirung über den Thatbestand einer . . . im Entstehen begriffenen Wissenschaft ist ja bekanntlich das beste Mittel, die noch vorhandenen Lücken zu entdecken." That note recurs, with such changes rung on it as the nature of the case demands, in every preface that Wundt wrote, from the *Vorlesungen* to the *Völkerpsychologie*. "Man kann möglicherweise zweifeln," he says of the *System*, "ob es angemessen sei, für eine derartige Untersuchung den alten Namen der Metaphysik zu wählen:" it is a new systematisation that he is attempting, the exposition of things

²⁸ E. g., in the preface to *Die Sprache*, 1900.

²⁹ Wirth, if I understand him aright, thinks that Wundt found Fechner's controversial insistence troublesome, and was a little afraid of getting side-tracked by applied mathematics: *Arch. f. d. ges. Psych.*, xl., 1920, xii. ff. Wirth, I take it, is also on the defensive.

from an unaccustomed point of view. Wundt is an essayist, only that his topics are not items but fields of knowledge.³⁰ It is small wonder, then, that—psychologist as he always was—he should be disquieted by the status and haunted by the problems of *Völkerpsychologie*, and should rejoice at last to bring psychological order into that chaos. But this is not to say what the legend says.

The twofold character of Wundt's work, as at once systematic and provisional, is a source both of strength and of weakness. It is obviously a good thing, if you are laying a case before the public, to think it steadily through, to view it in relations, to state it whole; so the argument becomes not only more impressive but also easier to grasp. It is a good thing, if you rely upon observations of fact, to sweep all your facts together, to organise them within a logical framework; so you become aware of support in unexpected quarters as well as of gaps that further work must fill. It is a necessary thing, if you are a man of science, to keep your ideas fluid, to let your theories sit lightly on you, to be open-minded toward new facts, to hold obstinately fast to nothing save the scientific point of view. But these good and necessary things imply a balance, and the balance of system and try-out, of system and first attempt, is not easy to maintain. Wundt was perpetually changing his evidence of observed fact and his minor perspectives; he expected to change them; the early data were but approximate and his first organisation of them must reflect their faults.³¹ In so far he was plastic

³⁰ This view of Wundt's work is substantially the same as that taken by E. Meumann in the appreciation written for Wundt's eightieth birthday (*Deutsche Rundschau*, clii., 1912, 217 f., 220 ff.). Meumann and I roomed together during my second year at Leipzig, and by dint of endless discussion and reference succeeded in pigeon-holing Wundt to our satisfaction.

³¹ Critics have made Wundt's readiness to change a ground of complaint; he changed his views surreptitiously, they say, without warning the reader or giving due credit to the men who forced the change. In so far as this charge implies moral obliquity on Wundt's part, it is ridiculous; Wundt, as all who knew him will testify and as his whole public career shows, was as honest as the day. Where he found a positive reason for noting change, he could be meticulously definite: witness the second edition of the *Vorlesungen*. Usually he thought it enough to assure his readers that he had taken the task of revision seriously, that the new edition was an edition and not a reprint, and to give a bare indication of the chapters most affected.

There is, however, no smoke without fire; and the critics in question are, I think, in fact objecting to a temperamental trait of Wundt's, his natural mode of reaction to criticism and suggestion. Külpe, with whom I once talked this matter over, pointed out to me that Wundt's development was always a development from within; his immediate

and receptive to an uncommon degree, and at an age when most men have settled down to fixed opinion. He did not either hesitate to throw overboard large theoretical constructions that his riper thinking disapproved; there is a great gulf between the *Beiträge* and the *Vorlesungen* on the one hand and the *Physiologische Psychologie* on the other. Yet he succumbed, without any doubt, to the temptations of the system. After 1874 (to take a rough dating) he showed little inclination to discard or revise his conceptual schemata; what had once been mere scaffolding thus tended to become an integral part of the actual building; or, to vary the figure again, Wundt poured the new wine of his later thought into the old bottles that he had more or less hurriedly assembled for his first successful vintage. I know, from many conversations, that he held his theories far more loosely than his readers ordinarily suppose, and that his greatest reverence was for fact. Yet it remains true that, when he had erected a theory, on however scant a basis of fact, he seemed as if in honor bound to defend it in his subsequent work. The theory might be changed contentwise out of all recognition; formally, nevertheless, it remained the original theory.

Had Wundt himself been aware that he was moving farther and farther away from his conceptual starting-points he would, with his indefatigable industry, have set about the task of revision. He was in fact aware, I imagine, rather of the continuity of his thinking; the later views seemed to him to be straightforward developments of the earlier, and therefore to be capable of expression in the same general terms. This sort of logical *Seelenblindheit* has had two regrettable consequences. The one is that Wundt was exposed to a hostile criticism which, as blind as he to the real issue, aimed only at the external and superficial, and which he accordingly and

reaction to external suggestion was likely to be negative, but the new idea stayed with him, was incubated, and presently—perhaps long after—emerged with fresh coloring, in a novel context, variously modified, as a component of his own thinking. There were two consequences, which critics might very well find irritating. The first was that Wundt might read into early utterances of his own a pregnancy that they did not in truth possess; and the second (I have given an instance in the text) was that a positive statement might stand beside a negative criticism of the pre-Wundtian view which had, to all appearances, given occasion for the modified Wundtian formula. Other circumstances, social and professional, would possibly have made Wundt both more accessible and less sensitive to outside influence. But seventeen years of depression, followed by a rapid rise to a position that may almost be called pontifical, naturally served to harden his temperamental tendencies.

properly resented; the other is that students of Wundt must read his books in series, and can never hope to understand him fully from any single presentation of his thought.

We came to this discussion by way of the *Völkerpsychologie*. Retracing our steps still further, we arrive again at the first of the three ideas of the *Beiträge*, the idea of an experimental psychology. What Wundt made of this idea, so far as results go, all the world knows; what obstacles he had to overcome, and with what fortitude and persistence he overcame them, we shall probably never know.

In 1874 appeared the *Grundzüge der physiologischen Psychologie*, Wundt's most influential work. Beginning as a single-volume book, it grew to two volumes in the editions of 1880, 1887, 1893, and to three volumes in those of 1902-03 and 1908-11. In the first edition Wundt's psychology is in many ways crude; but it is nevertheless psychology, and not the applied logic of the *Beiträge* and the *Vorlesungen*; Wundt has struck his gait.³² The controlling influences of his career were evidently operative between his thirty-first and forty-second years, though it is difficult to make out what they were. Perhaps the forthcoming autobiographical *Erlebtes und Erkanntes* will inform us.

Meanwhile we get no help from the list of publications. Wundt was busy, during the critical period, with his *Physiology* (1865, 1868, 1873); with *Die physikalischen Axiome* (1866); with the *Medical Physics* (1867); with the first part of his *Mechanics of Nerve* (1871). There is only a solitary article of 1867 entitled *Neue Leistungen auf dem Gebiete der physiologischen Psychologie*. And when he comes to write the *Physiologische Psychologie*, he relies for his physiological chapters, to be sure, on the work of these years of transition, but for his psychological data he goes back primarily to the *Beiträge* and secondarily to the *Vorlesungen*. No doubt he was maturing, fulfilling his normal inward growth. I think it a safe guess, however, that a strong negative influence emanated from Helmholtz, the final parts of whose *Optik* were issued

³² The *Jubiläums Katalog der Verlagsbuchhandlung Wilhelm Engelmann in Leipzig* (i., 1911, facing p. 90) contains a facsimile of the letter in which Wundt offered the manuscript of the *Physiologische Psychologie* to the firm for publication. The letter is dated Decr. 8, 1872, and suggests that printing may begin in Feb. of the following year. Wundt outlines the work in five parts: the physiological properties of the nervous system, the doctrine of sensation and idea, the doctrine of organic movements, criticism of psychological doctrines, and general theory of psychophysical occurrence.

in 1866. Even the outward form of the *Psychologie* seems to indicate a certain feeling of rivalry.

Be that as it may, the *Physiologische Psychologie* was accomplished. Throughout the first four editions Wundt tried to keep it encyclopaedic, to make it a handbook of experimental psychology at large; the third edition is the best of these four. In the fifth and sixth editions he gave up that attempt, and frankly set forth his own psychological system. The change coincides with the ending of the *Philosophische Studien* and the founding of Meumann's *Archiv*, and its result is rather to maintain than to alter the status of the book. Wundt's laboratory had long been the heart and centre of psychological production; now the laboratories had multiplied.³³

Here, then, is Wundt's first achievement in the domain of his experimental psychology. We can hardly overestimate it. As a work of reference the *Physiologische Psychologie* has been invaluable; its mere bulk and solidity have been an asset to a struggling science; the labor spent upon its revision has advantaged us all. But a greater achievement was to come.

In 1879—so runs the line in the biographies—Wundt founded the first psychological laboratory. We may let the bare line stand, if only it stand in lapidary letters. For that foundation was a world-event; it determined the very fabric and texture of modern psychology. Where John Mill theorised, Wundt performed; and the spirit of his performance has spread over the civilised world.³⁴

Lastly, in 1881 Wundt began the publication of a magazine, *Philosophische Studien*,³⁵ the last two of whose twenty volumes (1902) constitute a *Festschrift* prepared by his former students for the occasion of his seventieth birthday. Unwearied

³³ In 1902 the *Zeitschrift* had reached only its thirtieth volume, and the division of the two *Abteilungen* was still ten volumes away.

³⁴ I knew, in my Leipzig days, something in detail of the difficulties that Wundt had to encounter. I wish I could trust my memory to rehearse them. I recall that strenuous objection was made to the new laboratory on the ground that continued self-observation would drive young persons to insanity! Instead of that, the success of the novel enterprise moved older persons to imitation. Wundt was fortunate enough to gain, in 1891, a colleague like-minded with himself,—the historian K. Lamprecht; and Wundt and Lamprecht together are primarily responsible for the development at Leipzig of those *Forschungsinstitute* that are a legitimate source of pride to the university.

³⁵ Wundt has more than once rationalized the title of this publication. The author of *Ein Druckfehler bei Kant* might refer to the preface of the *Vorlesungen*, where Wundt remarks "dass die *philosophischen Studien* nur in den Erfahrungswissenschaften den Boden einer fruchtbringenden Entwicklung finden können."

as ever, he started a new series, *Psychologische Studien*, in 1905,³⁶ and carried it through ten volumes to his retirement from the Leipzig chair in 1917. These two *Studien*-sets have an individuality that will always mark them off from other psychological periodicals. In the earlier, we see experimental psychology in the making; problems at first are few, methods are imperfect, mode of presentation is uncertain, perspective is almost lacking. But there is a steady growth, extensive and intensive; a professional attitude forms; and when we reach the *Festschrift* we find topics from the whole range of psychology—physiological and philosophical, normal and abnormal, individual and social, current and historical—competently and fruitfully handled in the Wundtian way. The later volumes present a different picture. Here we see the specifically Leipzig problems attacked with the utmost refinements of Leipzig technique. The *Philosophische Studien* thus have the attraction of *eine im Entstehen begriffenen Wissenschaft*; the *Psychologische Studien* have the fascination of expert workmanship in a single style.

It was, of course, a physical impossibility for Wundt, at his advanced age, personally to oversee the details of the experimental work carried out in his institute; W. Wirth was appointed co-director in 1908. But Wundt's editorship of the *Studien* was never perfunctory, and his interest in experimental psychology was always vigorous. In 1898 he was experimenting with the geometrical-optical illusions. In 1902-3—*Die Sprache* appeared in 1900—he was, for the first time, overtly systematising his general or individual psychology. In 1906 he upheld the sensory character of black. In 1907 he launched his attack upon the methods of the Würzburg school: in the interest, truly, of his own social-psychological theory, but in the most intimate terms of laboratory experimentation. In 1908 he published the first volume of the new *Physiologische Psychologie*, whose ninth chapter bears witness to an extraordinary resurgence of interest in the fundamental problems of psychophysics. In 1909 he discussed the issue of pure and applied psychology. In 1911 he revised and republished the *Psychologie und Naturwissenschaft* of 1903. As late as 1914 he wrote about the illusions of reversible perspective. Surely, there is no gainsaying this evidence! The

³⁶ Meumann's *Archiv* was first issued in 1903, overlapping the eighteenth volume of the *Studien*. Wundt was one of its cooperating editors, and agreed to publish in it the studies from the Leipzig laboratory. For the reason stated in his *Vorwort*—Wirth (*op. cit.*, ii) gives it as “die damalige glückliche Lage des deutschen Buchhandels”—Wundt preferred to recur to an organ of his own.

Völkerpsychologie, if I may repeat what has been said above, is a typically Wundtian book, an anticipatory system on the grand scale; it is the resolute outcome of a long period of perplexity; it furnished a grateful occupation for his old age; it is a work of exceeding value. But the dominant idea of Wundt's life, the idea upon which his reputation is most solidly based, the idea that persisted with him up to the very end of his university activity, is the idea of an experimental psychology.

And in a footnote to this list of his services in behalf of the idea, let us remember that Wundt was the first psychologist to bring demonstrational apparatus into the lecture-room. In his earliest Leipzig lectures he exhibited instruments and went through the motions of experiment. Very soon, however, he came to see the real purpose of a demonstration: the provision, namely, of conditions under which the audience may observe for themselves the fundamental phenomena of the subject-matter of discussion. His use of the lantern with illusions of reversible perspective, a brief account of which he published in 1907, is a very model of demonstrational procedure.³⁷

It is plain that Wundt, whatever his intellectual gifts, could not have compassed this bulk of scientific work had he not been dowered with a good physical constitution and had he not lived a strictly regulated life. His days passed, in fact, with the regularity of clockwork. The morning was spent upon the current book or article; then came the *Sprechstunde*. The afternoon was taken up with the formal visit to the laboratory, a walk, the lecture, and a second, informal return to the laboratory. The evening was variously employed; Wundt might listen to a reader, or attend a concert or opera, or receive a group of his colleagues. For all his immersion in science, he managed remarkably to 'keep up' with current movements of literature and art. In personal intercourse he was unassuming, cordial, tolerant; by no means given to monologue; showing frequent flashes of a pleasant, wholly academic

³⁷ Wundt exerted a great and ever increasing influence as a lecturer. His habit was to throw his ideas into shape during his afternoon constitutional, and to speak without notes, though he always had a rough scheme of the topic in his pocket. I remember an occasion when his memory played him false in the matter of the name of a minor Greek philosopher; he extracted the paper of notes, and scanned it while still talking; but the notes, too, left him in the lurch, and the philosopher for that day went unmentioned. This is the only time that I knew him to refer in lecture to any written aid; and he remarked afterward that the experience had not been encouraging.

humor. There was no trace, as one sat with him in his own study, of the roaring lion of controversy or the somewhat Olympian arbiter of science and philosophy. He disliked public ceremonies, and could not be persuaded even to attend a psychological congress, though when occasion demanded his public appearance he played his part with dignity and success. He also disliked travelling, and his holiday excursions never took him far afield. These reluctances undoubtedly narrowed the sphere of his acquaintance, and so perhaps of his personal influence; but when the influence was already world-wide, when everybody who was interested in the things of mind came sooner or later to Leipzig, and when a greater *Geselligkeit* would have meant loss of productive time, they did not after all much matter. Wundt lived the simple family life of the old south-west German tradition, a retiring, sheltered life, which was probably the one condition under which his tremendous self-appointed task could have been accomplished.

As to the ultimate significance of that task, it would be the part of wisdom to keep silence; we stand too near to Wundt to see him in a just perspective. But I have formed my judgment, and will state it for what it may be worth. I take Wundt to be the first great figure in the history of thought whose temperament—disposition, attitude, habitual mode of approach to scientific problems—is that of the scientific psychologist. Whatever else Wundt might be doing, he also psychologised. He did not easily find himself; we have seen that there were years of wandering in the wilderness, and we have seen that the guidance which led him out of it is not readily determinable. When once he was free, however, he walked steadfastly in the path; year by year his psychology became sounder, as it also became more and more inclusive. A distinguished European psychologist wrote to me recently that he held no high opinion of Wundt's psychology because its theoretical views seemed to him to be nearly always wrong. Personally I do not greatly care about theoretical views; they are nothing more than an individual's blundering effort to bracket together and make manageable some large unruly body of observed facts. We may be sure, realising the limits of our acquaintance with fact, that whatever view we adopt will be inadequate, and we may fairly expect that increased knowledge will wholly discard it. We can only do our best with the facts available, as Wundt did, and trust to the future to do better by aid of further facts. But if a man is to gain his niche in history, he must have

the total vision, the generative idea. And for that reason I believe that when Wundt's special theories have utterly perished his fame will still endure; it will endure because, for all the hampering influence of the past, he established a new point of view and from it surveyed the whole scientific and philosophical domain. In this sense I am prepared to say that Wundt is the founder, not of experimental psychology alone, but of psychology.

PORTRAITS OF WUNDT

The earliest portrait of Wundt that I know of is the academic photograph, reproduced by G. S. Hall in "Founders of Modern Psychology," which shows him in three-quarter face at about the age of forty-five. The portrait is of especial interest because Wundt's right retina had not yet suffered the injury that led to strabismus. An academic photograph of some ten years later is an excellent profile picture. I have also a very good platinotype enlargement of a three-quarter face, made by the university photographer, C. Bellach, in 1897. The *Berliner Photographische Gesellschaft* publishes a reproduction of a painting (almost full-face) by Dora Arnd-Raschid, which is an admirable rendering of first impression and remains, to my mind, distinctly preferable to the later official photographs. N. Perscheid's photograph of 1904 (published by the *Berliner Photog. Ges.* and reproduced in the album of photographs edited by M. Brahn for the Leipzig University jubilee) has its merits of pose; but it, as well as the photograph accompanying Wundt's *Festrede* in the official Jubilee volume, gives him a look of stolidity which is altogether misleading. The current postcard photograph exaggerates this effect of stolidity. There are photographs extant of the group that gathered at Tambach in the Thüringer Wald on the occasion of Wundt's seventieth birthday; all four members of his family appear in them. The Jubilee book entitled "Die Universität Leipzig 1409-1909" contains a full-face pen-and-ink sketch by O. R. Bossert, which at first sight strikes one as caricature, but which takes on resemblance as one grows familiar with it. Wirth publishes as frontispiece to the 40th volume of the *Archiv* a pencil-sketch (profile) made shortly after Wundt's death by Felix Pfeifer.—These, aside from the print in the Open Court Series and a few unimportant reproductions in popular magazines, are all the portraits of Wundt known to me.

In 1905 (the year of the golden jubilee of Wundt's doctorate) a bronze plaque showing the face in profile was prepared by Pfeifer. The bronze is eminently satisfactory; the reproduction accompanying Wirth's memorial article is disappointing; the rounding of the temple and the hollowing of the lower cheek, both characteristic features, are largely lost. The bronze can be obtained in two sizes; Wirth gives price and other particulars. Some ten years later a larger bronze plaque was made by Max Lange. There is a reproduction in the *Leipziger Illustrierte Zeitung* (1916?). There is also a bust by Max Klinger. Wirth calls it "gewaltig, aber künstlerisch stilisiert." I have seen neither original nor any reproduction.—

I do not know if there are any official photographic memorials of the old laboratory in the *Konviktgebäude*. I have a pencil-sketch, looking from the first room, with its stove and chronograph, through the *Vorzimmer* and past the resonance box for the giant fork to the entrance-door; and I have five amateur photographs of rooms, one of them showing Külpe lecturing in the auditorium. I shall be glad to know if there is anything else.

Wundt, in his historical article (*Festschrift . . . der Universität Leipzig*, iv., 1, 1909, 118 ff.), says that this old laboratory had five rooms; I imagine that one or two had been partitioned. At any rate I remember more. The *Vorzimmer* (1) was a narrow entry that served only as storeroom. Then came (2) the first room, with chronograph, case for tools and instruments, and table for optical work. Out of this opened (3) the dark room, in which "eine mit Rüböl gespeiste Moderateurlampe" used up more than its fair share of oxygen. Beyond the first room lay (4) the second room, with chronoscopes and instrument-case. Somewhere alongside of this, probably continuous with the dark room, was (5) Wundt's private room, which must have been served by a special staircase, since Wundt used to appear out of it and disappear into it without passing through other rooms. As I remember the glimpses through the open door, it contained nothing but a table and a couple of chairs. Finally, beyond the second room, came (6) the last of the suite, the *Lesezimmer*. Across the corridor were (7) a room containing the reaction keys and stimulators, electrically connected with (4), and (8) a small room containing the gravity phonometer, the Wundt pendulum, the Fechner pendulum, etc. If we count only (2), (4), (6), (7) and (8), we have Wundt's five rooms.